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Patent

244/067 (6646-130N5)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Anticipated Classification of this application:

Class _____ Subclass _____

Prior application: 09/128,936

Examiner: Tsang, F.

Art Unit: 2742

JCS10 U.S. PTO
09/340618
06/28/99

BOX PATENT APPLICATION

Assistant Commissioner for Patents

Washington, D.C. 20231

FILING UNDER 37 CFR 1.53(B)

This is a request for filing for a

☒ continuation ☐ divisional

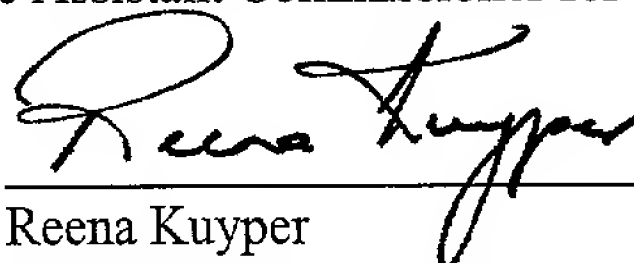
application under 37 C.F.R. 1.53(b) of pending prior application Application Serial No. 09/128,936 filed August 5, 1998, and entitled "Telephonic-Interface Game Control System," which is a continuation of Application Serial No. 08/559,538 filed November 16, 1995, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,793,846, which was a continuation of Application Serial No. 08/073,585 filed June 7, 1993, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,553,120, which was a continuation of Application Serial No. 07/534,907 filed June 8, 1990, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,218,631, which was a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled "Telephonic-Interface Statistical Analysis System," which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled "Telephonic-Interface Statistical Analysis System," now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed February 24, 1987, and entitled "Statistical Analysis System For Use With Public Communication Facility," now U.S. Patent No. 4,792,968, which was a continuation-in-part of Application Serial No. 06/753,299 filed July 10, 1985, and entitled "Statistical Analysis System For Use With Public Communication Facility," now abandoned. Also, Application Serial No. 08/559,538 is directly a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled "Telephonic-Interface Statistical Analysis System," which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled "Telephonic-Interface Statistical Analysis System," now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed on February 24, 1987, and entitled "Statistical Analysis System For Use With Public Communication Facility," now U.S. Patent No. 4,792,968, which was a

CERTIFICATE OF MAILING (37 C.F.R. §1.10)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as 'Express Mail Post Office To Addressee' (Label No. EM 350823590US) in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

June 28, 1999

Date of Deposit


Reena Kuyper
Registration No. 33,830

09340618-062899

continuation-in-part of Application Serial No. 06/753,299 filed on July 10, 1985, and entitled
"Statistical Analysis System For Use With Public Communication Facility," now abandoned.
The benefit of the earlier filing dates in the United States is claimed under 35 U.S.C. § 120,
of

Ronald A. Katz

for: TELEPHONIC-INTERFACE GAME CONTROL SYSTEM

1. **COPY OF PRIOR APPLICATION AS FILED WHICH IS ATTACHED**

- ☒ The attached specification and drawings are substantially the same as what is shown
in our records to be the above-identified prior application, including the oath and
declaration originally filed.

The papers of the attached application and accompanying copies of originally filed
documents include:

<u>21</u>	Pages of Specification		
<u>10</u>	Pages of Claims		
<u>1</u>	Pages of Abstract		
<u>3</u>	Sheets of Drawings	<u> </u> formal	<u> X </u> Informal
<u>2</u>	Pages of Declaration and Petition		
<u>2</u>	Page of Power of Attorney by Assignee from Aldo Tesi		
<u>2</u>	Pages of Power of Attorney by Assignee from Ronald A. Katz		
<u>2</u>	Pages of subsequent Revocation and Grant of Power of Attorney		

- ☒ In accordance with the indication required by 37 CFR 1.53(b), my records reflect that
the original signed declaration showing applicant's signature was signed on May 24,
1990.

- ☐ The amendment referred to in the declaration filed to complete the prior application,
and I hereby state, in accordance with the requirements of 37 CFR 1.53(b), that this
amendment did not introduce new matter therein.

2. **INCORPORATION BY REFERENCE**

The entire disclosure of the prior application, from which a copy of the original oath or
declaration is supplied, is considered as being part of the disclosure of the accompanying
application and is hereby incorporated by reference therein.

3. **AMENDMENTS**

- ☒ Cancel in this application original Claims 1-15 + 19-29 of the prior application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☐ A Preliminary Amendment is enclosed. (Claims added by Amendment must be numbered consecutively beginning with the number next following the highest numbered original claim in the prior application.)

4. **INFORMATION DISCLOSURE STATEMENT**

- ☐ An Information Disclosure Statement, PTO 1449, and references are submitted herewith.

5. **PETITION FOR SUSPENSION OF PROSECUTION FOR THE TIME TO FILE AN AMENDMENT**

- ☐ There is provided herewith a PETITION FOR SUSPENSION OF PROSECUTION FOR THE TIME NECESSARY TO FILE AN AMENDMENT (NEW APPLICATION FILED CONCURRENTLY).

6. **FEE CALCULATION (including claims presented in Preliminary Amendment)**

BASIC FILING FEE:				\$760.00
Total Claims	4	- 20	= 0 x \$18	\$0.00
Independent Claims	2	- 3	= 0 x \$78	\$0.00
Multiple Dependent Claims				\$260 (if applicable)
Surcharge 37 CFR 1.16(e)				\$130 (if applicable)
TOTAL OF ABOVE CALCULATIONS				\$ 760.00
Reduction by ½ for Filing by Small Entity. Note 37 CFR 1.9, 1.27, 1.28. If applicable, Verified Statement must be attached.				
Misc. Filing Fees (Recordation of Assignment)				
TOTAL FEES SUBMITTED HEREWITH				\$760.00

- ☐ The fee for extra claims is not being paid at this time.

Filing Fee Calculation

7. **SMALL ENTITY STATUS**

- ☐ A Verified Statement to establish small entity under 37 CFR 1.9 and 1.27 is attached

- ☐ has been filed in the prior application and such status is still proper and desired. [37 CFR 1.28(a)]

Filing Fee Calculation (50% of above) \$0.00

8. **DRAWINGS**

[NOTE: DO NOT CHECK THIS IF PRIOR CASE IS NOT TO BE ABANDONED.]

- ☐ Transfer the drawings from the prior application to this application and, subject to Item 16 below, abandon said prior application as of the filing date accorded to this application. A duplicate copy of this request is enclosed for filing in the prior application file.
[May only be used if signed by (1) applicant, (2) assignee of record or (3) attorney or agent of record authorized by 37 CFR 1.138 and before payment of issue fee.]

- ☐ Transfer the following sheet(s) of drawings from the prior application to this application.

- ☒ New drawings are enclosed ☐ formal ☒ informal

9. **PRIORITY - 35 U.S.C. 119**

- ☐ Priority of application Serial No. _____ filed on _____ in _____ [country] is claimed under 35 U.S.C. 119.
- ☐ The certified copy has been filed in prior U.S. application Serial No. _____ on _____.
- ☐ The certified copy will follow.

10. **RELATE BACK - 35 U.S.C. 120**

- ☒ Related Cases:

—This is a continuation of Application Serial No. 09/128,936 filed August 5, 1998, and entitled “Telephonic-Interface Game Control System,” which is a continuation of Application Serial No. 08/559,538 filed November 16, 1995, and entitled “Telephonic-Interface Game Control System,” now U.S. Patent No. 5,793,846, which was a continuation of Application Serial No. 08/073,585 filed June 7, 1993, and entitled “Telephonic-Interface Game Control System,” now U.S. Patent No. 5,553,120, which was a continuation of Application Serial No. 07/534,907 filed June 8, 1990, and entitled “Telephonic-Interface Game Control System,” now U.S. Patent No. 5,218,631, which was a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled “Telephonic-Interface Statistical Analysis System,” which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled “Telephonic-Interface Statistical Analysis System,” now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed February 24, 1987, and entitled “Statistical Analysis System For Use With Public Communication Facility,” now U.S. Patent No. 4,792,968, which was a continuation-in-part of

Application Serial No. 06/753,299 filed July 10, 1985, and entitled "Statistical Analysis System For Use With Public Communication Facility," now abandoned.

Also, Application Serial No. 08/559,538 is directly a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled "Telephonic-Interface Statistical Analysis System," which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled "Telephonic-Interface Statistical Analysis System," now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed on February 24, 1987, and entitled "Statistical Analysis System For Use With Public Communication Facility," now U.S. Patent No. 4,792,968, which was a continuation-in-part of Application Serial No. 06/753,299 filed on July 10, 1985, and entitled "Statistical Analysis System For Use With Public Communication Facility," now abandoned,. The benefit of the earlier filing dates in the United States is claimed under 35 U.S.C. § 120.—

11. INVENTORSHIP STATEMENT

☒ With respect to the prior co-pending U.S. application from which this application claims benefit under 35 U.S.C. 120, the inventor(s) in this application is (are):

☒ the same

☐ less than those named in the prior application and it is requested that the following inventor(s) identified above for the prior application be deleted:

[type name(s) of inventor(s) to be deleted]

☒ The inventorship for all the claims in this application are:

☒ the same

☐ not the same, and an explanation, including the ownership of the various claims at the time the last claimed invention was made, is submitted.

12. ASSIGNMENT

☒ The prior application is assigned of record to Ronald A. Katz Technology Licensing, L.P.

Ronald A. Katz Technology Licensing, L.P.
Name of Assignee

9200 Sunset Boulevard, Suite 1005, Los Angeles, California 90069
Address of Assignee

Assignment recorded in PTO on September 26, 1994, Reel 7133, Frames 090-100

☐ An Assignment of the invention to _____ is attached.

13. FEE PAYMENT BEING MADE AT THIS TIME

☐ Not attached. No filing fee is submitted. [This and the surcharge required by 37 CFR 1.16(e) can be paid subsequently.]

☒ Attached.

☒ Filing fee. \$760.00

☐ Recording assignment. [\$40.00 37 CFR 1.21(h)(1)]
Petition fee for filing by other than all the inventors or
person on behalf of the inventor where inventor refused
to sign or cannot be reached.
[\$130.00; 37 CFR 1.47 and 1.17(h)]

☐ Petition fee to Suspend Prosecution for the Time
Necessary to File an Amendment (New Application Filed
Concurrently.
[\$130.00; 37 CFR 1.103 and 1.17(i)(1)] -

☐ For processing an application with a specification
in a non-English language.
[\$130.00; 37 CFR 1.52(d) and 1.17(k)]

☐ Processing and retention fee.
[\$130.00; 37 CFR 1.53(d) and 1.21(l)]

Total Fees Enclosed \$760.00

14. METHOD OF PAYMENT OF FEES

☐ Attached is a check in the amount of _____.

☒ Charge Deposit Account No. **12-2475** in the amount of \$760.00.

15. AUTHORIZATION TO CHARGE ADDITIONAL FEES

The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Deposit Account No. **12-2475**:

☒ 37 CFR 1.16 (filing fees)

☒ 37 CFR 1.16 (presentation of extra claims)

- ☒ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
- ☐ 37 CFR 1.17 (application processing fees)
- ☐ 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b))

16. **INSTRUCTIONS AS TO OVERPAYMENT**

- ☒ Credit Deposit Account No. **12-2475**.
- ☐ Refund

17. **POWER OF ATTORNEY**

- ☐ The power of attorney in the prior application is to
- ☒ The power of attorney in the prior application is to the registered attorneys listed below and members of or associates in the law firm of **LYON & LYON LLP**, 633 West Fifth Street, 47th Floor, Los Angeles, California 90071, Registration No. 11,611, whose members are registered to practice in the U.S. Patent and Trademark office:

Roland N. Smoot, Reg. No. 18,718
Conrad R. Solum, Jr., Reg. No. 20,467
James W. Geriak, Reg. No. 20,233
Robert M. Taylor, Jr., Reg. No. 19,848
Samuel B. Stone, Reg. No. 19,297
Douglas E. Olson, Reg. No. 22,798
Robert E. Lyon, Reg. No. 24,171
Robert C. Weiss, Reg. No. 24,939
Richard E. Lyon, Jr., Reg. No. 26,300
John D. McConaghy, Reg. No. 26,733
William C. Steffin, Reg. No. 26,811
Coe A. Bloomberg, Reg. No. 26,605
J. Donald McCarthy, Reg. No. 25,119
John M. Benassi, Reg. No. 27,483
James J. Shalek, Reg. No. 29,749
Allan W. Jansen, Reg. No. 29,035
Robert W. Dickerson, Reg. No. 29,914
Roy L. Anderson, Reg. No. 30,240
David B. Murphy, Reg. No. 31,125

James C. Brooks, Reg. No. 29,898
Jeffrey M. Olson, Reg. No. 30,790
Steven D. Hemminger, Reg. No. 30,755
Jerrold B. Reilly, Reg. No. 32,293
Paul H. Meier, Reg. No. 32,274
John A. Rafter, Jr., Reg. No. 31,653
Kenneth H. Ohriner, Reg. No. 31, 646
Mary S. Consalvi, Reg. No. 32,212
Lois M. Kwasigroch, Reg. No. 35,579
Lawrence R. LaPorte, Reg. No. 38,948
Robert C. Laurensen, Reg. No. 34,206
Carol A. Schneider, Reg. No. 34,923
Hope E. Melville, Reg. No. 34,874
Michael J. Wise, Reg. No. 34,047
Richard J. Warburg, Reg. No. 32,327
and
Reena Kuyper, Reg. No. 33,830

- ☒ The power appears in the original papers in the prior application.

- ☐ The power does not appear in the original papers, but was filed on _____ in this application.
- ☐ A new power has been executed and is attached.
- ☒ Address all future communications to:

LYON & LYON LLP
633 West Fifth Street, 47th Floor
Los Angeles, California 90071
(213) 489-1600
Attention: Reena Kuyper

18. MAINTENANCE OF CO-PENDENCY OF PRIOR APPLICATION

- ☐ A petition, fee and response has been filed to extend the term in the pending **prior** application until _____. A copy of the petition for extension of time in the **prior** application is attached.

19. CONDITIONAL PETITIONS FOR EXTENSION OF TIME IN PRIOR APPLICATION

- ☐ A conditional petition for extension of time is being filed in the pending **prior** application. A copy of the conditional petition for extension of time in the **prior** application is attached.

20. ABANDONMENT OF PRIOR APPLICATION

- ☐ Please abandon the prior application at a time while the prior application is pending or when the petition for extension of time or to revive in that application is granted and when this application is granted a filing date so as to make this application co-pending with said prior application. At the same time, please add the words "now abandoned" to the amendment of the specification set forth in Item 13 above.

Respectfully submitted,

Dated: June 28, 1999

LYON & LYON LLP
Reena Kuyper
By: Reena Kuyper
Registration No. 33,830
Attorneys for Applicants

633 West Fifth Street, Suite 4700
Los Angeles, California 90071-2066
(213) 489-1600
Enclosures

SPECIFICATION

TELEPHONIC-INTERFACE GAME CONTROL SYSTEM

5 Background and Summary of the Invention

Related Cases

This is a continuation of Application Serial No. 09/128,936 filed August 5, 1998, and entitled "Telephonic-Interface Game Control System," which is a continuation of Application Serial No. 08/559,538 filed November 16, 1995, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,793,846, which was a continuation of Application Serial No. 08/073,585 filed June 7, 1993, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,553,120, which was a continuation of Application Serial No. 07/534,907 filed June 8, 1990, and entitled "Telephonic-Interface Game Control System," now U.S. Patent No. 5,218,631, which was a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled "Telephonic-Interface Statistical Analysis System," which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled "Telephonic-Interface Statistical Analysis System," now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed February 24, 1987, and entitled "Statistical Analysis System For Use With Public Communication Facility," now U.S. Patent No. 4,792,968, which was a continuation-in-part of Application Serial No. 06/753,299 filed July 10, 1985, and entitled "Statistical Analysis System For Use With Public Communication Facility," now abandoned.

Also, Application Serial No. 08/559,538 is directly a continuation-in-part of Application Serial No. 07/335,923 filed April 10, 1989, and entitled "Telephonic-Interface Statistical Analysis System," which was a continuation of Application Serial No. 07/194,258 filed May 16, 1988, and entitled "Telephonic-Interface Statistical Analysis System," now U.S. Patent No. 4,845,739, which was a continuation-in-part of Application Serial No. 07/018,244 filed on February 24, 1987, and entitled "Statistical Analysis System For Use With Public Communication Facility," now U.S. Patent No. 4,792,968, which was a continuation-in-part of Application Serial No. 06/753,299 filed on July 10, 1985, and entitled "Statistical Analysis System For Use With Public Communication Facility," now abandoned,. The benefit of the earlier filing dates in the United States is claimed under 35 U.S.C. § 120.

Prior-Art Considerations

To efficiently accomplish various functions, it has been proposed to interface persons at telephone calling terminals directly with a computer facility. In accordance with such arrangements, computer-generated voice messages prompt callers to provide digital data by actuating the numeric buttons that are conventionally employed for dialing from one telephone terminal to another. Such techniques have been widely used; however, a need exists for expanded operating capabilities, as to accommodate various game formats.

Invention Summary

In general, the present invention comprises a telephonic-interface system and related processes for selectively utilizing both analog (voice) and digital telephonic communication in a variety of different game formats or programs, as to accommodate a vast number of participants.

For example, after approval of a caller (based on telephone number signals) calls are accepted, designations are provided and a voice generator prompts individual callers to provide digital data for a game record. An information acquisition phase may be concurrent or consecutive with respect to an information processing phase. In accordance with various game formats, acquired data is processed to accomplish the functional operations, as for a contest, a lottery, and so on.

In specific implementations or formats, the system may use various criteria as a basis for awarding credits or points to callers, e.g. interrelated processing or processing with external data, source or random. Formats may make awards for proper responses, as question answers. Also, time may be introduced as a factor in relation to awards. Questions to callers may be variously selected, as from memory banks classified with varying orders of difficulty. Also, progressive stages of play may be invoked in a format to selectively access certain awards during a single call or a series of calls to isolate subsets and sub-subsets of callers. In that regard, award points may be tallied and accessible in a cache memory for prompt accounting reports. Thus, point accounts may be reported, individually or relatively.

Brief Description of the Drawings

In the drawings, which constitute a part of this specification, exemplary embodiments exhibiting various objectives and features hereof are set forth, specifically:

FIGURE 1 is a block diagram of a system constructed in accordance with the present invention;

FIGURE 2 is a fragmentary diagrammatic representation of a storage cell format as may be developed in the system of FIGURE 1;

FIGURE 3 is a flow diagram of one operating format of the system of FIGURE 1; and

FIGURE 4 is a block diagram of a processor or function unit as may be employed in the system of FIGURE 1.

Description of the Illustrative Embodiment

As required, a detailed illustrative embodiment of the present invention is disclosed herein. However, physical communication systems, data formats, and operating structures in accordance with the present invention may be embodied in a wide variety of forms, some of which may be quite different from those of the disclosed embodiment. Consequently, the specific structural and functional details disclosed herein are merely representative; yet in that regard, they are deemed to afford the best embodiment for purposes of disclosure and to provide a basis for the claims herein which define the scope of the present invention.

Referring initially to FIGURE 1, a series of remote telephone-instrument terminals T1 through Tn are represented (left). The terminals are generally similar, and accordingly, only the terminal T1 is shown in any detail. The exemplary telephone terminal T1 is represented to include a hand piece 10 (microphone and earphone) and a panel 12 provided with a rectangular array of push buttons 14 in the conventional configuration. Of course, the hand piece 10 accommodates analog signals while the panel 12 is a digital apparatus. Generally in accordance herewith, the hand piece 10 serves to manifest vocal prompts or cues to the caller.

In accordance with conventional telephone practice, alphabetic and numeric designations are provided on the buttons 14. For example, several of the buttons 14 carry three letters along with a decimal digit. Specifically, the button designated with the numeral "2" also carries the letters "A", "B" and "C". In that manner, the buttons 14 encompass the numerals "0-9", two symbols, and the alphabet except for the letters "Q" and "Z". Consequently, the buttons 14 accommodate the entry of decimal data, and to some extent alphabetic data.

The buttons 14, designated with symbols and “*” and “#”, along with the numeral “0” can be used by predetermined assignment to represent the letters “Q” and “Z” or any of a variety of other data or command components.

5 The remote terminals T1 through Tn represent a multitude of conventional telephone terminals coupled to a communication facility CO that may take the form of a comprehensive public telephone system. In accordance with the present system, the terminals T1-Tn operate through the telephone communication facility CO to be coupled with a central station CS.

10 Generally in accordance with the present development, individual callers use the individual telephone terminals T1 through Tn to interface the station CS (in a game format) through the communication facility CO. Depending on individual formats, the data of individual callers may be collected, correlated and tested by the station CS according to programs and external data. As a result, a select subset of the callers may be isolated and identified.

15 At any instant of time, the collective interface involving the communication system CO and the processing station CS may involve calls from several thousand of the terminals T1-Tn. Accordingly, the station CS may take the form of a sizable computer or mainframe. Although numerous possible configurations are available, for purposes of convenient illustration and explanation, the central station CS of the disclosed embodiment includes a plurality of audio response units AR1-ARn (left) and cooperating individual processors IP1-IPn (lower right) coupled to receive call data, as through a call distributor (not shown).

20 At this stage, some specific aspects of the communication interface are noteworthy. Generally, by telephonic dialing, the communication facility CO couples select terminals T1-Tn to select of the audio response units AR1-ARn. For example, as a result of dialing a specific telephone number at the remote terminal unit T1, the communication facility CO might couple

the terminal unit through one of several sets of lines LS1-LSn to the audio response unit AR1.

The caller at the terminal T1 accordingly is ultimately interfaced in a game format with the processor IP1.

From the audio response units AR1-ARn, lines LS1-LSn pass through a switch coupler 22 for select communication with the individual interface format processors IP1-IPn. As indicated above, while the interface processors IP1-IPn are illustrated as separate and distinct units, it is to be understood that various structural processing combinations based on time sharing, parallel processing, compiler techniques, bus technologies and other well known computer techniques may be employed variously to accomplish the objective processing as explained in detail below. As the processors IP1-IPn are similar, only the processor IP1 is shown in any detail in FIGURE 1. Note also that various of the structures and functions of the processors IP1-IPn may be incorporated in the units AR1-ARn. Of course, specific arrangements and configurations will likely be implemented based on currently available hardware and software.

The coupler 22 also is connected to a master control and memory unit 24 which incorporates substantial memory and programmable computing capability. The unit 24 is associatively coupled to: a cache memory 23 (right), a manual terminal 25 (upper left), a question memory bank 27 (upper right), a calling number test unit 29 (lower left) and through a crossbar 26 (below) to the processors IP1-IPn. Note that both the function and structure of cache memories for storing current data and crossbars for selectively interconnecting multiple parallel structures are well known in the computer arts. For a detailed description of cache memories and crossbars, see the book, "High-Performance Computer Architecture" by Harold S. Stone, published by Addison-Wesley Publishing Company, 1987.

The calling-number test unit 29 (lower left) essentially is a comparator or coincidence device. For example, the unit 29 may take the form of a look-up table for storing negative telephone numbers that are unacceptable. The number received in conjunction with a call, as by automatic number identification (ANI) equipment is supplied through a receiving unit AR1-ARn before the call is "answered". If addressing the look-up table (negative list) in the test unit 29 with the calling number indicates registration of the number, a busy signal generator 31 is actuated and the involved unit AR1-ARn supplies a busy signal to the caller, declining the call. Accordingly, as described in detail below, disqualified calling numbers are rejected before being "answered".

As indicated above, the coupler 22 functions as a switch as well known in the prior art to establish line couplings from one of the audio response units (AR1-ARn) to one of the interface processors IP1-IPn. The operation of the coupler 22 is implemented in association with the unit 24 which may be programmed to execute specific control and memory functions as detailed below. Again the division of functions between the unit 24, the units AR1-ARn and the processors IP1-IPn may vary considerably depending on available structures and techniques. Accordingly, the disclosed system is deemed to be merely exemplary.

Generally, the interface processors IP1-IPn receive basic record data from the unit 24 and current data from the terminals T1-Tn. In a multiple format configuration, operating program data either may be initially developed in the processors IP1-IPn or supplied from the unit 24. In any exemplary format, a packet of data is assembled in one of the processors IP1-IPn during an interface with one of the terminal units T1-Tn. After being organized in a cell, the data packet may be stored in the unit 24 for subsequent use. Accordingly, an inventory of game participants is developed with their data cells available for repeated use. Concurrently, significant data, as

for example data relating to the highest current game scores, may be abstracted in the cache memory 23 for prompt reporting.

Of the wide variety of operating formats and game applications accommodated by the present system, it will be apparent that certain elements have reoccurring significance in various combinations. Specifically, such elements include: (1) utilizing the called telephone number to select a specific operating format, (2) screening or selecting callers who will be accepted based on various criteria including received telephone numbers (ANI, DNIS) for screening before call acceptance (going off hook), (3) designating callers, as with manually or automatically provided telephone number data or computer-generated designations to enable subsequent positive identification, (4) providing a selection of cues (questions) for callers as from data banks of various difficulty levels, (5) enabling callers to specify degrees of risk (points), (6) relating response data (answers) to time as a further criterion, (7) using external data (random or source) for processing caller data to isolate a subset (or series of subsets) as by interrelated or independent processing, and (8) accumulating caller scores over a substantial period with key data abstracted for easy access (cache).

With respect to the data processing aspects, exemplary elemental features include the utilization of external data not available during the interval of gathering data, the utilization of an interrelationship between the composite data collected during a data acquisition period, and the utilization of time or sequence as a criterion to determine a subset.

In the development of data cells, current data is provided from the master control and memory unit 24 and the question memory 27 for interfacing a caller. Specifically, as indicated above, the unit 24 incorporates a memory for storing individual caller cells addressed by caller

identification. Accordingly, records are created and maintained on individual callers indicative of identification, qualification and the results of participation in a game or games.

For use in association with various games, the question memory 27 incorporates a plurality of question banks Q1-Qn, each storing questions of different classification as with respect to difficulty. For example, the question bank Q1 may store relatively easy questions, with the level of difficulty progressively increasing through the question banks to the bank Qn. Accordingly, the master control and memory unit 24 may be actuated in accordance with a format to select questions of a predetermined character by designating a specific one of the banks Q1-Qn. Consider some specific operations as may be implemented with respect to the question memory 27. A telephone number alone may designate a specific question bank Q1-Qn, for example, the number being either "called" or "calling" and provided automatically (ANI, DNIS) or manually.

In a more elaborate example, telephone numbers provided automatically may be compared with telephone numbers provided manually to access a select question bank Q1-Qn only in the event of coincidence. Also, telephone numbers may be used in logic combinations with other data to select a question bank Q1-Qn. To consider some examples, a simple application might eliminate a bank of questions used previously in an interface with a calling number. Alternatively, banks may be eliminated if used previously for either or both of an automatically provided number and a manually provided number. Of course, inconsistent numbers might also prompt further programmed inquiries.

The selection of a question bank also may be based on other data, as data generated during an interface. For example, questions of progressive orders of difficulty may be propounded as a sequence interrupted by a incorrect answer.

Returning to the structure of the master control and memory unit 24 and its related operations, data cells DS are stored for each caller and may involve a format as illustrated in FIGURE 2. Specifically, a block 52 is indicated to represent a field for a caller's established identification. A block 53 carries a computer-generated designation for the caller. A block 54 indicates a prohibition field designating a caller either as being totally prohibited or prohibited with respect to certain game formats. As indicated above, a negative list of prohibited callers may alternatively or also be stored as a look-up table.

The balance of the data cell DS is dedicated to game format sections G1-Gn. In FIGURE 2, three exemplary game sections are illustrated. Specifically, in a game section G1, designated field 55 carries a call record (times, questions, answers and awards), a field 56 indicates a caller's current award record, and a field 58 indicates a caller's status. Generally, variations or duplicates of the fields 55, 56 and 58 are provided in game sections G2-Gn for alternative game formats. Games may vary widely with caller data processed accordingly. For example, caller data may be processed individually or in interrelated patterns, as with reference to external data (random or source) to establish winners as subsets or progressive subsets.

To consider a specific example, a format now will be described wherein television viewers participate in a game show for prizes. Along with expanding participation of television viewers in a program, the format also has the potential of expanding general program interest.

Game shows for the exemplary format may take any of a wide variety of different forms in which studio contestants compete for prizes. However, in utilizing the system of the present invention to involve remote participants, it may be desirable to preliminarily qualify and designate callers. Specifically, prior to participating in a game, interested participants might interface the system as depicted in FIGURE 1. In the course of an exchange, a data cell is

initiated for each caller in the unit 24. The initial fields 52, 53 and possibly 54 are accordingly loaded.

With preregistration, at the time of participation, callers are qualified, initially by avoiding a negative list then by presence on a positive list, as by reference to an assigned
5 memory cell. Thereafter, the interface data is received to supplement prior data. For example, a caller might select a studio audience participant with whom the caller is to be allied. The interface operation essentially may involve a voice generator in the associated audio response unit, e.g. unit AR1 (FIGURE 1) receiving cue signals from the processor IP1 to activate the
10 remote telephone unit T1 to speak an instruction: "If you wish to play with Player No. 1, please push button No. 1; if you wish to play with Player No. 2, please push button No. 2 ... and so on". The caller also may be instructed to indicate the extent of a wager (points at risk). For example, "Push the number button indicating the points you wish to risk".

The received participant data or computed result data is stored in the active processor IP1 for return to an assigned cell in the unit 24. Scores are compared or otherwise interrelated
15 between individual processors IP1-IPn to provide an abstract of key data in the cache memory 23. For example, the highest scores may be stored so that caller reports may cover a participant's score as well as indicating the significance of that score to others. A report message might state: "Your score is now 537. The highest score is 641 and the average score is 316. Good luck." Thus, individual accounts can be given for each of the calling participants
20 dependent upon their success in association with a studio player. Thus, after an interval of play, the processing units, as the unit 92 (FIGURE 4), may isolate a subset of scores in the cache memory 23. Of course, various arrangements may be provided ultimately for rewarding a select subset of winners or persons qualified for play at a higher level.

As explained, the above format generally involves a real-time game show with an on-line operating format. A somewhat similar format may involve non-real-time operation and in that sense, callers may interface the system of the present invention before and after the show; however, not primarily during the show. As examples, such a game format might involve: a quiz
5 for callers based on their ability to perceive and remember occurrences within the show, a word game (Scrabble) or any of a multitude of games involving knowledge, time, random events and so on.

As indicated above, a multitude of game formats may be executed based on an elemental operating process hereof as will now be considered with reference to FIGURE 3. An initial operation involves caller identification and format selection. As indicated above, caller
10 identification may have been previously established or may be established preliminarily in the course of a call to participate in a game. Caller identification may involve telephone terminal data as provided by ANI telephone equipment. Also, the designation of a specific format at the central station CS may be commanded on the basis of the called telephone number (may be
15 provided by DNIS telephonic equipment). Thus, in certain instances, the caller identification and the format selection may occur with no conscious involvement by the caller. These operations are represented by the block 70 in FIGURE 3.

With the identification of a caller, as represented in FIGURE 3, the next step involves approving the caller for participation as represented by the query block 72. For example, callers
20 might be tested in relation to negative or positive lists, personal identification numbers may be checked, a use-rate calculator may be involved or a caller may be tested or qualified with respect to various payment schemes. Accordingly, individual callers are ultimately either approved or disapproved.

As indicated above, calls that are determined to be unqualified based on ANI signals may be rejected without completing a communication circuit, i.e. "answering". Otherwise, callers disapproved from the test block 72 receive a termination message as represented by the block 73. The termination procedure may be variously formed, as with a spoken message or signals
5 prompting the caller to hang up.

Approved callers encounter the next step in the process as represented by the block 74 involving the selection of a desired class of questions. Of course, specific formats may vary widely; however, as a simple example, with correct answers, a caller might be given questions in an increasing order of difficulty. Alternatively, orders of difficulty may be related to individual
10 calls for participation in the game. As still another possibility, orders of difficulty may be related to a scale of risk, reward or be the choice of the caller. In any event, determining an order of difficulty prompts the master control and memory unit 24 (FIGURE 1) to draw a stored question from a select one of the memory banks Q1-Qn. Thus, a question is selected in a process step as indicated by a block 75 (FIGURE 3).

15 Selected questions are tested as indicated by a query block 76. For example, selected questions may be compared with previous questions propounded to a caller (stored in the field 55) so as to avoid duplications. If a question is determined to be duplicative, or otherwise inappropriate, the process returns to the step of block 75 for the selection of another question.

20 With the selection of an approved question, the process proceeds to the next step of determining the risk to be undertaken by the caller (block 77). For example, a caller may be instructed to indicate the extent of a wager. Specifically, the Q might be: "Please push the number button indicating the points you wish to risk". As represented in FIGURE 3 by the block 77, the step establishes a degree of risk for the caller.

With the degree of risk determined and the question selected, the question is vocalized to the caller as indicated by block 78. Typically, the question may be answered by depressing a button or buttons 14 (FIGURE 1) at the remote terminal T1. For example, "What are the initials of the fourth President of the United States?"

5 With the posing of a question, a time clock is checked as indicated by the block 79 for determining the interval between question and correct answer. A query block 80 represents the determination of whether or not a correct answer is received. If a correct answer is not received, the operation advances to a query block 82: "Game End?" as discussed below.

10 A correct answer advances the process from the step of the block 80 to a step represented by a block 83, i.e. of accumulating the award points. The step of the block 83 involves the determination of a correct answer (block 80) and the time required for the correct answer (block 79). A combination of time and the correct answer resolves the award points that are accumulated with any prior or existing point total as represented by the block 83. The resulting total is announced to the caller in a step illustrated by block 84. As explained above, the
15 announcement may refer to comparative significant scores. As a part of a winning step in the process, the caller may be placed in direct vocal communication with an operator. Specifically, the unit 24 (FIGURE 1) couples the call to the terminal 25 and supplies related prompting data for display.

20 The step of announcing a total point count to a caller advances the process to the query represented by block 82, i.e. determine whether or not the game phase has ended. If the game phase has ended, the process proceeds to the termination step as indicated by the block 73 (upper right). If the game phase has not ended, the process returns to the block 74, involving the preliminary step of selecting a question. Of course, the game may involve one or several

questions during the course of each telephone call. At the end of a game phase, the data is returned to the unit 24 as for processing or future retrieval during another game phase.

The process as illustrated in FIGURE 3 is executed in the system of FIGURE 1 by an association between one of the processors IP1-IPn and the master control and memory unit 24 along with the question memory 27. Considering the processor IP1 generally, with the qualification of a call, a data cell for the caller is established in a data store 90 in the processor IP1. Somewhat similarly, the game format for the call is set in a control unit 92 within the processor IP1.

Also, with the operation of setting up the processor IP1, the master control and memory unit 24 functions with the question memory 27 and a specific one of the question banks Q1-Qn to isolate an operative question that is stored in a question unit 94 of the processor IP1. The select question is propounded to the caller through the coupler 22 and an audio response unit, e.g. unit AR1. Cued by the question (audio), the caller is expected to key in an answer to provide digital response data. Upon the occurrence of a correct answer, a point accumulator 96 (processor IP1) in combination with a clock 98 (processor IP1) determines a point award that is accumulated in the caller data store 90. Thus, the process proceeds until the call is terminated with the possibility of the caller acquiring points according to the predetermined operating format.

The components of the processor IP1 are shown in FIGURE 4 arranged and intercoupled for operation. Note that similar identification numerals appear in FIGURES 1 and 4.

To treat an illustrative operation comprehensively with reference to FIGURES 1 and 4, again assume an exemplary format that is associated with a television broadcast. Specifically, after watching the broadcast of a television show (possibly a serial episode) the participant

actuates the push buttons 14 at one of the remote terminals T1-Tn to accomplish an interface communication with the select operating format. For example, the caller may actuate the buttons 14 for the station number "1-900-555-7777" to identify the game format of current description.

With the responsive operation of the communication facility CO, the caller is coupled to an audio response unit, e.g. unit AR1. A further connection is made from the audio response unit AR1 through the coupler 22 to the unit 24.

Operating through the communication facility CO, one of the audio response units AR1-ARn, the coupler 22 and the master unit 24, the initial contact may be variously implemented. For example, a call signal as provided to a select audio response unit AR1 may include representations of the caller's number and, accordingly, access a data cell on the caller. A general negative file may be carried in the master unit 24.

Recognizing the various possibilities, assume that at the outset of the interface, a voice generator in the audio response unit AR1 is actuated by the unit 24 to greet the caller. For example, the caller might be greeted: "Thank you for calling XYZ Company to participate in the XYZ Game".

As explained above, the caller may be variously qualified, for example, in a format to determine if the caller is registered, has a proper identification or has a key number. In any event, at some stage of operation, the master unit 24 provides the data cell for the caller to the processor IP1 which is stored in the caller register 90 (FIGURE 4). As suggested above, if no data exists on the caller, the operating format may variously qualify or condition the caller with the result that data is established for the caller as indicated in FIGURE 2.

In executing the specific process of a format, the control unit 92 (FIGURE 4) provides timing signals t1-t6 to sequence specific components. Generally, the individual operations

attendant each of the timing intervals (manifest by the high level of a binary signal) are as follows:

<u>Interval or Signal</u>	<u>Function</u>
t1	store tentative question
t2	check tentative question
t3	register question and determine risk points
t4	operative question exchange interval (cue and response)
t5	award points
t6	accumulate points-and store

To consider the overall operation as related to structure, the master unit 24 (FIGURE 1) operates with one of the audio response units AR1-ARn initially to establish criterion for selecting a question. The criterion may involve the status of the caller, the sequence of the format, the nature of the game, or any of various other considerations. However, it is important to appreciate that the question memory 27 (FIGURE 1) incorporates a multitude of banks Q1-Qn each of which contains questions serving different criteria, e.g. different levels of difficulty. Essentially, each question within each of the banks Q1-Qn is addressed by a specific designation which also indicates a class of question.

Upon the selection of a class of question, a specific tentative question is identified and an identification code is placed in a question identification storage 101 (FIGURE 4) contained within the question unit 94. Accordingly, the identified question is tested against previous questions posed to the caller. Specifically, the record of the caller's data cell (FIGURE 2) includes identification of prior questions posed. The identifications of those questions are

sequentially supplied from the register 90 (FIGURE 4) to a comparator 103 that is also coupled to the store 101. If a coincidence occurs, a signal is provided from the comparator 103 to the control unit 92 commanding the master unit 24 (FIGURE 1) to select another tentative question. The test operation is then repeated as indicated by the block 76 in FIGURE 3.

5 If no coincidence is detected between the prior and the tentative question, the comparator 103 (FIGURE 4) provides a signal to a buffer 107 for accepting the question. Specifically, upon approval of a question, the master unit 24 (FIGURE 1) addresses the select memory bank (Q1-Qn) to supply the selected question through the crossbar 26 and the control unit 92 (FIGURE 4) to be registered in the buffer 107.

10 Concurrently with the operation of selecting a question for a specific interface, the system determines the degree of risk involved with the question. Specifically, as explained above, the caller may interface the master unit 24 through one of the audio response units AR1-ARn to establish points at risk, the value of which is represented by signals supplied through the crossbar 26 (FIGURE 1) to the control unit 92 (FIGURE 4) and set in a risk points buffer 111.

15 Accordingly, with the degree of risk established (buffer 111) and the question established (buffer 107) the system proceeds to cue the caller with the select question.

The caller's answer is reduced to a digital format as a result of actuating the keys 14 at the remote terminal. Accordingly, digital signals are provided through the communication facility CO and the audio response unit AR1 to the coupler 22 interfacing the processor IP1.

20 Within the processor IP1, the control unit 92 tests the answer while metering the time required for the answer. Typically, the timing will be in terms of seconds. The control unit determines whether or not the answer is correct and if so, the amount of time required for the answer. As a result, factors may be determined as by the use of a simple look-up table. For example, if a

correct answer is provided within two seconds, a factor of "3.0" may be formulated. A correct answer within five seconds might produce a factor of "2.5" while a correct answer within seven seconds produces a multiplier factor of "2.0".

Signals representative of the multiplier factor are provided from the control unit 92 to a multiplier 113 that is also coupled to receive signals representative of the risk points from the buffer 111. Accordingly, the value of the risk points is multiplied by the determined factor to produce a product supplied to the point accumulator 96 to be added to the residual value.

Accordingly, a fresh accumulation is determined. Of course, if the correct answer is not provided, the multiplier 113 is dormant with the consequence that the caller is left with the residue of points in the accumulator 96 remaining after withdrawing the points-at-risk.

After each cycle of processing a question, the accumulated points may be announced to the caller simply by actuating the audio response unit AR1. As indicated above with respect to FIGURE 3, when the game is concluded, the call is terminated in accordance with a predetermined subformat.

In relation to the disclosed embodiment, it may be seen that the system affords certain distinct features important with respect to interface operation. Specifically, the provision of a plurality of data banks within a question memory accommodates various formats for question selection, e.g. order of difficulty, format state, geographic location and so on. Also, the feature allowing a caller to determine the points at risk affords considerable flexibility of operation with attendant caller participation. The feature incorporating time as a criterion for awards also affords considerable flexibility in formulating effective game formats.

Furthermore, depending on the detailed operation of the system, individual data packets for cells of callers afford an effective technique for accumulating data over a progressive game

period. In a related context, qualification of callers is significant in general and particularly noteworthy in relation to declining select calls before “answering”.

In view of the above description, it will be apparent that the system of the present invention may be effectively used in telephonic interfaces to accommodate flexibility and control by a caller in accordance with a predetermined format. Although the disclosed embodiment is directed to a game operation, it will be apparent that the system may be variously embodied to accommodate a wide variety of telephonic interface operations. Furthermore, it will be apparent that while the disclosed embodiment comprises specific elements and configurations, any of a variety of structures might well be utilized. Accordingly, the scope hereof is deemed to be as set forth in the claims below.

WHAT IS CLAIMED IS:

1 1. A process for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said process including the steps of:

6 interfacing said communication facility to provide voice signals for cueing callers
7 and receiving responsive digital data in accordance with a select format;

8 storing data to identify callers and indicate caller scores;

9 storing a plurality of batches of questions for use in said formats;

10 selecting a question from a specific batch of questions to cue a caller;

11 cueing a caller with said question; and

12 testing the response of a caller to a selected question and scoring the response
13 accordingly in the caller's score.

1 2. A process according to claim 1 further including a step of testing a selected
2 question prior to cueing said caller.

1 3. A process according to claim 2 further including a step of recording questions
2 previously used to cue callers and wherein said step of testing tests previously used questions to
3 cue callers against a selected question.

1 4. A process according to claim 1 further including a step of assigning data cells to
2 callers to record identification and score data.

1 5. A process according to claim 1 wherein said step of testing a response comprises
2 testing data represented by number identification signals provided automatically by said
3 communication facility to indicate called or calling numbers.

1 6. A process for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said process including the steps of:

6 interfacing said communication facility to provide voice signals for cueing callers
7 and receiving responsive digital data in accordance with a select format;

8 storing data to identify callers and indicate caller scores;

9 cueing a caller and processing the caller's response with reference to time to
10 establish a score value based on time and responsive answer data; and

11 reflecting score values in the data stored to indicate caller scores.

1 7. A process according to claim 6 further including a step of cueing a caller to
2 determine a value at risk and also establishing said score value on said value at risk.

1 8. A process according to claim 6 further including a step of abstracting and
2 registering said score values.

1 9. A process according to claim 8 further including the step of reporting score values
2 to a caller as abstracted and registered.

1 10. A process according to claim 6 further including a step of assigning a data cell to
2 a caller to receive a plurality of caller scores.

1 11. A process according to claim 10 wherein said step of assigning a data cell further
2 includes receiving data represented by number identification signals provided automatically by
3 said communication facility to indicate called or calling numbers.

1 12. A process for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said process including the steps of:
6 interfacing said communication facility to provide voice signals for cueing callers
7 and receiving responsive digital data in accordance with a select format;
8 storing data to identify callers and indicate caller scores;
9 cueing a caller and processing the caller's response to establish a value at risk for
10 the caller; and

11 testing the response of a caller to a selected question and scoring the response
12 accordingly in the caller's score reflecting the established value at risk.

1 13. A process according to claim 12 wherein said step of storing data includes storing
2 data represented by number identification signals provided automatically by said communication
3 facility to indicate called or calling numbers.

1 14. A process according to claim 12 further including a step of assigning data cells to
2 callers to record identification and score data.

1 15. A process according to claim 12 further including a step of assigning a data cell to
2 a caller to receive a plurality of caller scores.

1 16. A process for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said process including the steps of:

6 receiving associated telephone number signals upon the instance of a call from
7 one of said remote terminal apparatus;

8 testing said associated telephone number signals with respect to stored data to
9 determine the acceptability of said call from said one of said remote terminal apparatus as
10 indicated by an acceptability signal;

11 accepting said call from said one of said remote terminal apparatus conditioned on
12 said acceptability signal; and
13 interfacing said communication facility to provide voice signals for cueing callers
14 and receiving responsive digital data in accordance with a select format to accepted calls.

1 17. A process according to claim 16 wherein said step of receiving associated
2 telephone number signals includes receiving data represented by number identification signals
3 provided automatically by said communication facility to indicate called or calling numbers.

1 18. A process according to claim 16 wherein said step of testing is accomplished prior
2 to accepting said call whereby audio communication is not established for calls that are not
3 accepted.

1 19. A process for statistical analysis of data for use with a communication facility
2 including remote terminal apparatus for individual callers, wherein said remote terminal
3 apparatus may comprise a conventional telephone instrument including voice communication
4 means and digital input means in the form of an array of alphabetic numeric buttons for
5 providing identification and statistical data, said process including the steps of:

6 interfacing said communication facility to provide voice signals and receive
7 digital identification of identification data developed by said terminal apparatus under
8 control of said caller;

9 generating voice signals and supplying said voice signals to actuate said terminal
10 apparatus, as to provide vocal operating instructions to a caller;

11 providing sequence signals representative of sequence data indicating the
12 sequence of a call with reference to the calls from other callers;
13 designating callers based on a computer generated number;
14 initiating files and storing data from qualified callers including,
15 (1) designation data as indicated by said designation data, and
16 (2) identification data as indicated by said identification signals;
17 providing external data signals distinct from said designation data provided to
18 callers; and
19 comparing said designation data provided by callers and analyzing said
20 designation data with said external data in combination to isolate a select subset of said
21 callers.

1 20. A process according to claim 19 wherein said external data signals comprise
2 random value signals.

1 21. A process according to claim 19 wherein said comparing further includes
2 interrelated processing as between said designation data.

1 22. A process according to claim 19 wherein said identification data includes data
2 represented by number identification signals provided automatically by said communication
3 facility to indicate called or calling numbers.

1 23. A process for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said process including the steps of:

6 interfacing said communication facility to provide voice signals for cueing callers
7 and receiving responsive digital data in accordance with a select format;

8 storing data to identify callers and indicate caller scores;

9 cueing a caller and processing the caller's response with reference to defining an
10 initial subset; and

11 further cueing a caller and reflecting score values in the data stored to indicate
12 caller scores.

1 24. A process according to claim 23 wherein said further cueing and reflecting
2 defines a subsequent subset.

1 25. A system for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said system comprising:

6 means for interfacing said communication facility to provide voice signals for
7 cueing callers and receiving responsive digital data in accordance with a select format;

8 means for storing data to identify callers and indicate caller scores;
9 means for storing a plurality of batches of questions for use in said formats;
10 means for selecting a question from a specific batch of questions to cue a caller;
11 means for cueing a caller with said question; and
12 means for testing the response of a caller to a selected question and scoring the
13 response accordingly in the caller's score.

1 26. A system according to claim 25 wherein said means for storing data includes
2 means for receiving and storing data represented by number identification signals provided
3 automatically by said communication facility to indicate called or calling numbers.

1 27. A system for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said system comprising:

6 means for interfacing said communication facility to provide voice signals for
7 cueing callers and receiving responsive digital data in accordance with a select format;
8 means for storing data to identify callers and indicate caller scores;
9 means for cueing a caller and processing the caller's response with reference to
10 time to establish a score value based on time and responsive answer data; and
11 means for reflecting score values in the data stored to indicate caller scores.

1 28. A system according to claim 27 wherein said means for storing data includes
2 means for receiving and storing data represented by number identification signals provided
3 automatically by said communication facility to indicate called or calling numbers.

1 29. A system for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said system comprising:

6 means for interfacing said communication facility to provide voice signals for
7 cueing callers and receiving responsive digital data in accordance with a select format;

8 means for storing data to identify callers and indicate caller scores;

9 means for cueing a caller and processing a caller's response to store a value at risk
10 for the caller; and

11 means for testing the response of a caller to a selected question and scoring the
12 response accordingly in the caller's score reflecting the established value at risk.

1 ~~30.~~ A system for executing game formats in association with a communication
2 facility including remote terminal apparatus for individual playing callers, wherein said remote
3 terminal apparatus may include a conventional telephone instrument with voice communication
4 means and digital input means in the form of an array of alphabetic, numeric buttons for
5 providing data, said system comprising:

6 means for receiving associated telephone number signals upon the instance of a
7 call from one of said remote terminal apparatus;

8 means for testing said associated telephone number signals with respect to stored
9 data to determine the acceptability of said call from said one of said remote terminal
10 apparatus as indicated by an acceptability signal;

11 means for accepting said call from said one of said remote terminal apparatus
12 conditioned on said acceptability signal; and

13 means for interfacing said communication facility to provide voice signals for cueing
14 callers and receiving responsive digital data in accordance with a select format to
15 accepted calls.

TELEPHONIC-INTERFACE GAME CONTROL SYSTEM

Abstract of the Disclosure

5 A control system CS interfaces a multiplicity of individual terminals T1-Tn through a telephone network facility CO to accommodate game formats. At the terminals T1-Tn, callers are prompted by voice-generated instructions to provide digital data that is identified for positive association with a caller and stored, as for processing. Calls are conditionally accepted based on a test of preliminary identification data (ANI or DNIS). Computer generated designations are assigned to callers and stored. Questions for game use are stored in banks, classified by order of difficulty for selection according to various formats. Specific game formats accommodate various time criteria and caller selection of degree of risk. Caller data is stored in cells along with statistical and identification data; also, key contest data is held accessible in a cache memory for reporting. Caller data may be processed individually or in interrelated formats as with reference to random or source data as to establish progressive subsets. A break-off control circuit may terminate the computer interface aborting to a manual terminal for direct communication with an operator. Real-time operation processing is an alternative to subsequently processing stored data.

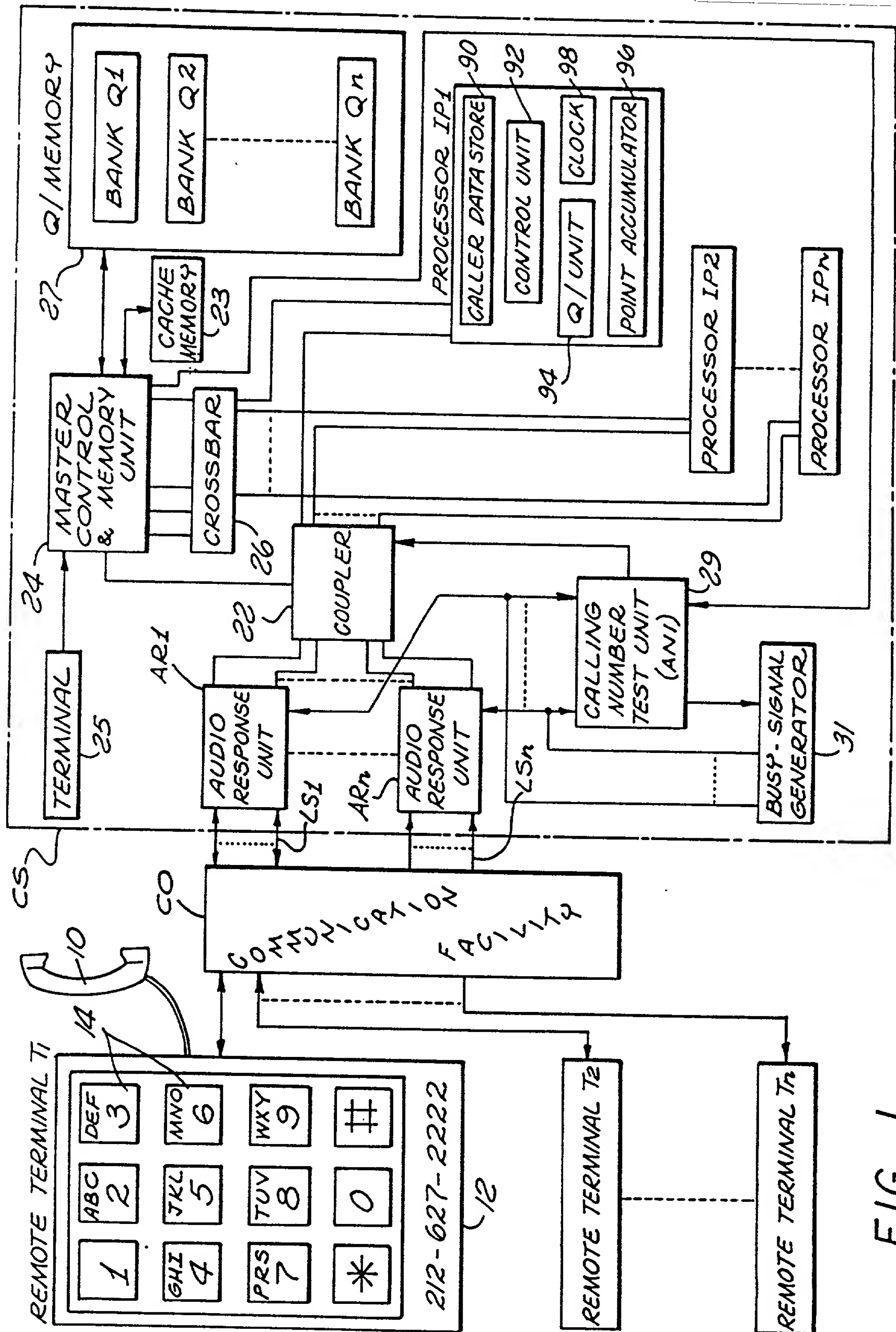


FIG. 1

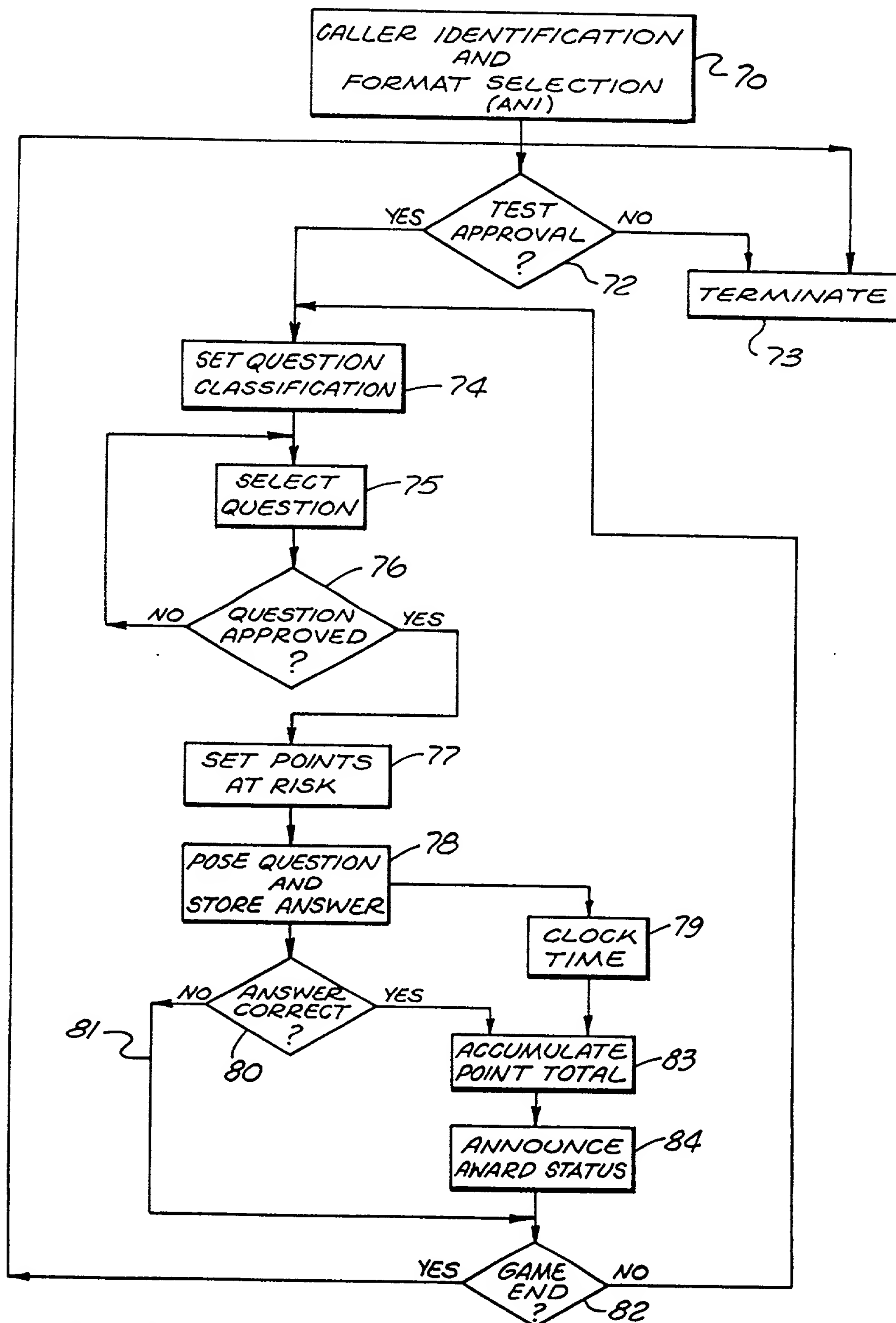


FIG. 3

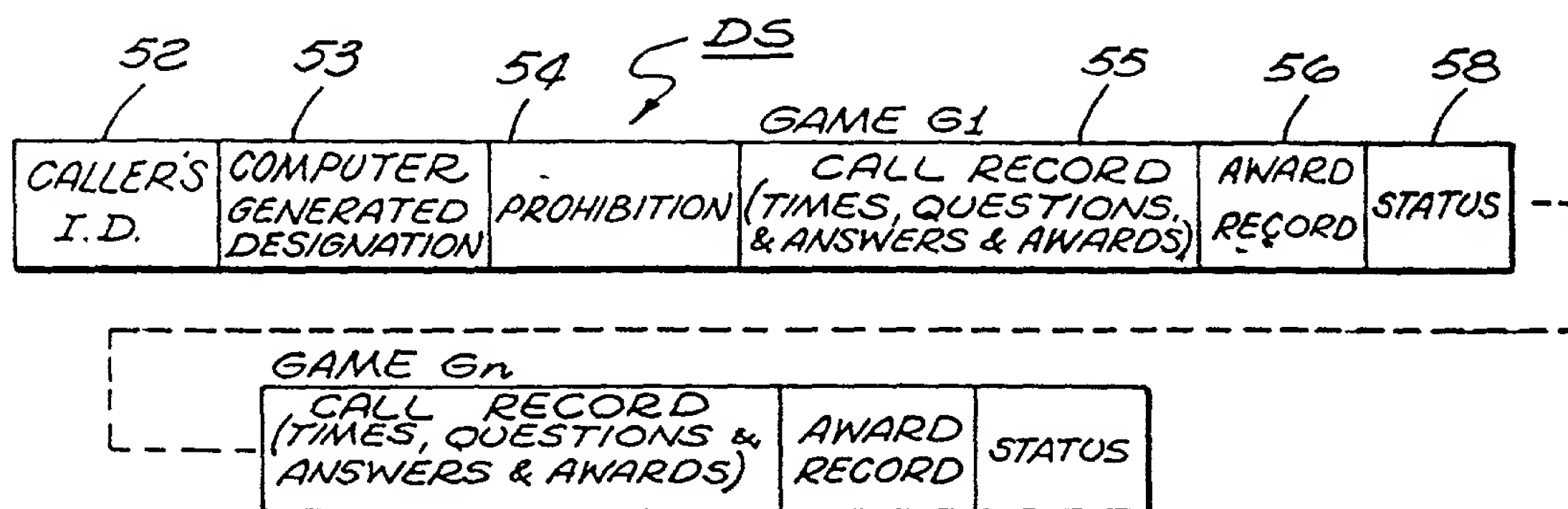
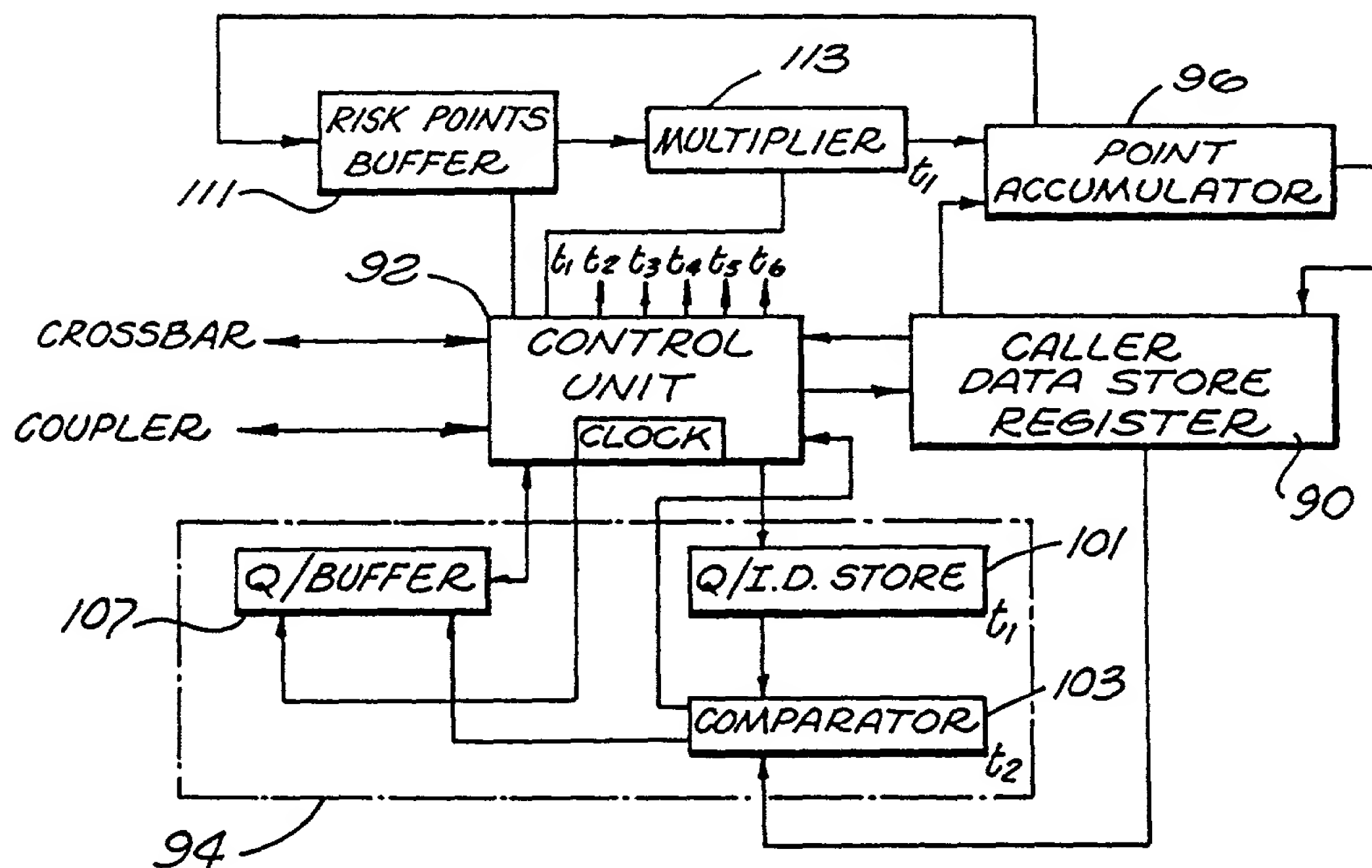


FIG. 2

FIG. 4



DECLARATION AND PETITION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled TELEPHONIC-INTERFACE GAME CONTROL SYSTEM, the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: None.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37,

Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

335,923	April 10, 1989	Pending
Application Serial No.	Filing Date	Status
4,845,739	July 4, 1989	
U.S. Patent No.	Issued	
4,792,968	December 20, 1988	
U.S. Patent No.	Issued	
753,299	July 10, 1985	Abandoned
Application Serial No.	Filing Date	Status

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Wherefore I pray that Letters Patent be granted to me for the invention or discovery described and claimed in the foregoing specification and claims, and I hereby subscribe my name to the foregoing specification and claims, declaration and petition.

Full name of sole or first inventor: Ronald A. Katz

Inventor's signature: Ronald A. Katz

Date: 5/24/90

Residence: Los Angeles, California

Citizenship: U.S.A.

Post Office Address: 570 South Mapleton Drive
Los Angeles, California 90024

668890-6790460

POWER OF ATTORNEY BY ASSIGNEE

Commissioner of Patents
and Trademarks
Washington, D. C. 20231

Sir:

I, Aldo Tesi, Executive Vice President of
FIRST DATA RESOURCES INC., a corporation of the State of
Delaware and assignee of the entire right, title and
interest in the application for United States Letters
Patent entitled TELEPHONIC-INTERFACE GAME CONTROL SYSTEM
and executed May 24, 1990 with inventor Ronald A.
Katz, hereby appoint:

<u>Attorney</u>	<u>Registration No.</u>
Byard G. Nilsson	17,350
Billy A. Robbins	18,313
Lewis M. Dalgarn	20,415
Robert Berliner	20,121
M. John Carson	25,090
Harold E. Wurst	22,183
Michael S. Elkind	28,710
Gregory B. Wood	28,133
Robert A. Green	28,301
Mark E. Garscia	31,953
John P. Spitals	29,215
Jeffrey F. Craft	30,044
Georgann S. Grunebach	33,179


all attorneys of the law firm of Nilsson, Robbins,
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2628, as attorneys of said corporation with full powers
of substitution and revocation to prosecute this appli-
cation and to transact all business in the United States
Patent and Trademark Office in connection therewith.

Please send all correspondence to:

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FIRST DATA RESOURCES INC.

By: 
Aldo Tesi
Executive Vice President

Attorney Docket No. 4646-130

662290-ET904E60

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ronald A. Katz)
Serial No.: 08/073,585) Examiner: T. Brown
Filed: June 7, 1993) Art Unit: 2601
For: TELEPHONIC-INTERFACE GAME)
CONTROL SYSTEM)
New Docket No.: 6646-130N1)
(Previous Docket No.: 4646-130N))

POWER OF ATTORNEY BY ASSIGNEE

Commissioner of Patents
and Trademarks
Washington, D. C. 20231

Sir:

I, Ronald A. Katz, am the President of A2D Corporation, a California corporation, which corporation is a general partner of A2D, L.P., a California limited partnership, which limited partnership is a general partner of RONALD A. KATZ TECHNOLOGY LICENSING, L.P., a California limited partnership and assignee of the entire right, title and interest in the application for United States Letters Patent entitled TELEPHONIC-INTERFACE GAME CONTROL SYSTEM, and am authorized to sign on its behalf.

The Assignment of this application to RONALD A. KATZ TECHNOLOGY LICENSING, L.P., has been submitted to the Assignment Branch and was received on September 26, 1994.

I have reviewed the foregoing document and hereby certify that, to the best of my knowledge and belief, title to the

subject matter of this patent application is in RONALD A. KATZ
TECHNOLOGY LICENSING, L.P.

I hereby appoint: Byard G. Nilsson, Reg. No. 17,350, Harold
E. Wurst, Reg. No. 22,183, Robert A. Green, Reg. No. 28,301, Anne
Wang, Reg. No. 36,045, all members of the bar of one or more
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Registration No. 18,417, 105 Whittier St., NW, Washington, DC
20012, to prosecute this application and to transact all business
in the United States Patent and Trademark Office in connection
therewith.

Please send all correspondence to:

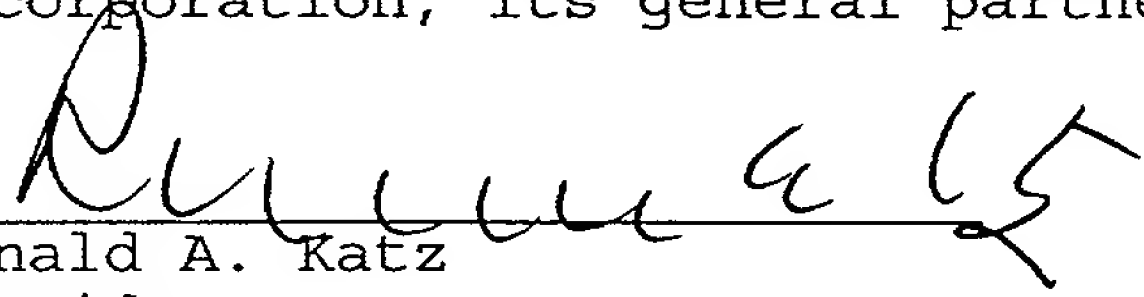
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RONALD A. KATZ TECHNOLOGY
LICENSING, L.P., a California limited
partnership,

By: A2D, L.P., a California limited
partnership, its general partner

By: A2D Corporation, a California
corporation, its general partner

By: 
Ronald A. Katz
President,
A2D Corporation

Attorney Docket No. 6646-130N1

6646130N1.poa

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Group Art Unit: 2601
)	
Ronald A. Katz)	Examiner: T. Brown
)	
Serial No. 08/559,538)	
)	
Filed: November 16, 1995)	
)	
For: TELEPHONIC-INTERFACE GAME)	
CONTROL SYSTEM)	
)	
Dkt. No.: 228/068)	
(previous dkt. nos. 9002-1B670USH and 6646-130N3))	
)	

REVOCATION AND GRANT OF POWER OF ATTORNEY

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

All powers of attorney granted before are revoked.

I, Ronald A. Katz, am the president of A2D Corporation, a California corporation, which corporation is a general partner of A2D, L.P. a California limited partnership, which limited partnership is a general partner of RONALD A. KATZ TECHNOLOGY LICENSING, L.P., a California limited partnership, the assignee owning all of the interest in this application, and by virtue of the foregoing relationships I execute this document on its behalf to appoint as its attorneys and representatives, with full powers of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office

connected with it, David B. Murphy, Reg. No. 31,125, and Reena Kuyper, Reg. No. 33,830
(registered patent agent); and

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all of LYON & LYON, First Interstate World Center, 633 West Fifth Street, Suite 4700,
Los Angeles, California 90071-2066, telephone: (213) 489-1600.

The Assignment of this application to RONALD A. KATZ TECHNOLOGY
LICENSING, L.P., was recorded on September 26, 1994, on Reel 7133, Frames 95-100.

Also, I have reviewed the assignment documents and hereby certify that, to the best
of my knowledge and belief, title to the subject matter of this application is with

RONALD A. KATZ TECHNOLOGY LICENSING, L.P.

Date:

9/68/97

By:

Ronald A. Katz
President
A2D Corporation